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MCGINN & GIBB, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

BOSWELL, CHRISTOPHER J

ART UNIT

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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 5,893,300 to Liao.

Liao discloses a connection means (10) having an element (30) that has a pair of engaging holes (31), and a slide member (20) that has a bifurcated structure (figure 1) comprising elastic pieces (21) that each comprise projections (outer projection 23) that engage a corresponding pair of engaging holes (figure 3), as in claim 10, where the pair of engaging holes are provided on opposing surfaces (figure 3) of a cylindrical portion (figure 1) of the element, as in claim 11, as well as the slide pin being swingably connected to the element by the engagement of the projection with the corresponding pair of engagement holes (column 1, lines 20-21), as in claim 12, and where the slide pin has a stopper (inner projection 23) between the elastic pieces (figure 1), as in claim 13, wherein a corresponding element has an elastic contact (column 2, lines 2-4) for contacting the stopper, as in claim 14, and the element further has a rib wall (figure 3) on an inner side surface and opposing the elastic contact, as in claim 15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 4,781,407 to Rauchhaus, in view of U.S. Patent Number 5,893,300 to Liao.

Rauchhaus discloses the invention substantially as claimed. A lock apparatus for attaching a container member to a support member openably, the lock apparatus having a operation handle (34), a spring (28), which are movably supported by the container member, a pair of slide pins (10 and 11), which are urged in directions of lock holes (figure 1) defined on the support member by the spring and a pair of cam members (19 and 20) to which rear end portions of the slide pins are fitted (column 5, lines 11-22), respectively to urge each slide pin to project and retract, wherein, the operation handle is operated in a swing manner, a front end portion of each slide pin is retracted from each lock hole of the support member against pressure of each spring (column 5, lines 24-33), engagement holes (figures 4 and 5) are defined on opposed surfaces of each front end portion of the cam member having a cylindrical portion. However, Rauchhaus does not disclose the method to which the slide pins are connected to the cam members. Liao teaches of a connection means having a slide member (20) having a bifurcated structure made from elastic pieces (figure 1), where each of the elastic pieces have a protrusion (outer projection 23) for detachably engaged with an engagement hole (31) in an element (30) in the analogous art of means for connecting two members together for the purpose

of providing a fixing or fastening device which is usable for connecting two members together, and is easy to assemble (column 1, lines 20-21). It would have been obvious to one with ordinary skill in the art at the time the invention was made to utilize a connection means between the slide pins and the cam members having a bifurcated structure on the end of the slide pins to engage into a pair of engagement holes in the cam member in order to connect the cam members to the slide pins, and to provide fastening device which is usable for connecting two members together, and which will provide an easily assembled connection.

Rauchhaus also discloses the slide pins connected to the cam members to be swingable (column 6, lines 7-21), as in claim 2.

Liao further teaches a stopper piece (inner projection 23) provided between the elastic pieces of each slide member (figure 1), and an elastic contact piece (column 2, lines 2-4) for contacting with the stopper piece is formed on a surface of the element, and a rib wall (figure 3), where it would have been obvious to one with ordinary skill in the art at the time the invention was made to utilize a stopper piece between the elastic pieces in order to established a additional stiffness to the elastic pieces, as in claims 3 and 4.

Rauchhaus additionally discloses an outer cylindrical member (39) formed on the operation handle, and an O-ring (31 and 32) which contacts with the outer cylindrical member and the cylindrical portion of the cam member simultaneously (figure 4), as in claim 5, wherein the cylindrical portion of the cam member includes a containing groove (33) to which the O-ring is attached, as in claim 6, and wherein the containing groove is formed in a recessed shape (figure 4 and 5) to isolate the O-ring, as in claim 7, as well as the outer cylindrical member has a bottom surface, a cam groove (24) is formed on the cylindrical portion of the cam member, and a

projected portion (41 and 42) is formed on the outer cylindrical member, the projected portion moves in the cam groove (figures 4 and 5), the projected portion and the cam groove are disposed in a space (5) blocked by the O-ring, as in claim 8 and 9.

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liao, as applied above to claims 10-15, in view of Rauchhaus.

Liao discloses the invention substantially as claimed. However, Liao does not disclose the connection means having a handle, wherein a pair of cams engages with the handle to actuate motion of the slide pins. Rauchhaus teaches of a lock apparatus for attaching a container member to a support member openably, the lock apparatus having a operation handle (34), a spring (28), which are movably supported by the container member, a pair of slide pins (10 and 11), which are urged in directions of lock holes (figure 1) defined on the support member by the spring and a pair of cam members (19 and 20) to which rear end portions of the slide pins are fitted (column 5, lines 5-22), respectively to urge each slide pin to project and retract, wherein, the operation handle is operated in a swing manner, a front end portion of each slide pin is retracted from each lock hole of the support member against pressure of each spring (column 5, lines 24-33), engagement holes (figures 4 and 5) are defined on opposed surfaces of each front end portion of the cam member having a cylindrical portion, an outer cylindrical member (39) formed on the operation handle, and an O-ring (31 and 32) which contacts with the outer cylindrical member and the cylindrical portion of the cam member simultaneously (figure 4), as in claim 16, wherein the pair of cams further comprise a containing groove (33) on the cylindrical portion that receives the O-ring, as in claim 17, and wherein the containing groove is

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recessed (figure 4 and 5) to isolate the O-ring, as in claim 18, the outer cylindrical member comprises a bottom surface (figure 4 and 5), one of the cylindrical portion of the corresponding one of the pair of cams and the outer cylindrical member further comprises a cam groove (24), and the other of the cylindrical portion of the corresponding one of the pair of cams and the outer cylindrical member further comprises a projection (41 and 42) received by the cam groove such that the projection is blocked by the O-ring, as in claims 19 and 20, in the same field of endeavor for the purpose of establishing a latch mechanism which is simple in design and can be used universally. It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the connection means of Liao as the connection means between the cam members and the slide pins in the lock apparatus of Rauchhaus in order to connect the cam members to the slide pins, and to provide fastening device which is usable for connecting two members together, and which will provide an easily assembled connection.

Response to Arguments

Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to biased latch connection means:

U.S. Patent Number 6,854,919 to Neumann et al., U.S. Patent Number 6,292,979 to Kuo, U.S. Patent Number 6,155,741 to Took, U.S. Patent Number 5,898,172 to Masui

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et al., U.S. Patent Number 5,516,190 to Kain et al., U.S. Patent Number 4,898,493 to Blankenburg, U.S. Patent Number 4,711,595 to Magid et al., U.S. Patent Number 1,716,605 to Shepard, U.S. Patent Number 1,039,354 to Bonadio.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Boswell whose telephone number is (571) 272-7087. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CJB CB
March 25, 2005

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600